Reviewer’s report

**Title:** Functional MRI study in a case of Charles Bonnet syndrome related to LHON

**Version:** 0 **Date:** 07 Nov 2019

**Reviewer:** Reviewer 2

**Reviewer's report:**

**PEER REVIEWER ASSESSMENTS:**

**RELEVANCE** - Does this case report make a contribution to medical knowledge, have educational value, or highlight the need for a change in clinical practice or diagnostic/prognostic approaches?
Yes, this report contributes to medical knowledge

**CASE DESCRIPTION** - Are the details of the case sufficiently well described to understand the patient's symptoms and course of treatment?
No - there are major issues

**DIAGNOSIS/INTERPRETATION** - Based on the facts presented, are the diagnosis, interpretation, and course of treatment medically sound?
Yes, the work described is medically sound

**DISCUSSION OF THE CASE** - Does the discussion appropriately analyse the importance of the findings and their relevance to future understanding of disease processes, diagnosis or treatment?
Has an adequate literature review pertinent to the case been included?
Yes, the case is discussed fully in the context of the literature

**OVERALL MANUSCRIPT POTENTIAL** - Could an appropriately REVISED version of this work represent a technically sound contribution?
Probably - with minor revisions

**PEER REVIEWER COMMENTS:**

**GENERAL COMMENTS:** Authors present an interesting case of CBS with a unique finding of visual hallucinations after a non random auditory stimuli. Though the case is unique and of interest to the readership, some more details of the case are essential.

**REQUESTED REVISIONS:**
My comments:
In the abstract, please present what was the visual acuity in both eyes at the time of CBS presentation? Some other details of the ophthalmic condition such as field of vision, etc. will also be helpful. Please include this in the main text if there is an issue with the word count in the abstract.
Including a patient with coexistent sensorineural deafness is adding a degree of confounding to this whole case. It might have been better to study someone with other faculties intact. But given the rarity of the diagnosis, this seems passable.

Can the authors quantify the dB of the random clap given? How many claps were given over the 10 minute period? Were the dB of the claps the same or were varied? Were the same MRI changes noted uniformly at the time of all the claps?

How was the non-random bip different form the clap? What instrument was used to provide the bip and at what intensity (dB)?

Given that the MRI is a very noisy machine for the patient, what influence did this have on the stimuli?

The explanation of acquired auditory-visual synesthesia to explain the fMRI findings and responses with a non random clap is quite plausible and acceptable.

ADDITIONAL REQUESTS/SUGGESTIONS:

None

Are the methods appropriate and well described?
If not, please specify what is required in your comments to the authors.

No

Does the work include the necessary controls?
If not, please specify which controls are required in your comments to the authors.

Yes

Are the conclusions drawn adequately supported by the data shown?
If not, please explain in your comments to the authors.

Yes

Are you able to assess any statistics in the manuscript or would you recommend an additional statistical review?
If an additional statistical review is recommended, please specify what aspects require further assessment in your comments to the editors.

Not relevant to this manuscript

Quality of written English
Please indicate the quality of language in the manuscript:

Acceptable
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Please complete a declaration of competing interests, considering the following questions:

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